

AMENDMENTS TO THE CLAIMS

CLAIM 1 (PREVIOUSLY PRESENTED): A shift control device for a bicycle transmission comprising:

a mounting member adapted to mount the shift control device to a bicycle;

a first lever operatively coupled to the mounting member, wherein the first lever moves in a first plane;

a second lever operatively coupled to the mounting member for movement in a second plane between a rest position and an operating position such that the second lever returns to the rest position after moving to the operating position;

wherein the first plane is substantially parallel to the second plane;

a positioning unit that rotates to and is maintained in a plurality of positions corresponding to gear positions of the bicycle; and

a positioning member that moves relative to the second lever and that is controlled by the second lever to operate the positioning unit;

wherein the first lever is operatively coupled to the positioning unit so that the first lever is maintained in a plurality of positions corresponding to gear positions of the bicycle transmission in addition to beginning and end positions of a range of motion of the first lever.

CLAIM 2 (ORIGINAL): The device according to claim 1 wherein the first lever rotates within the first plane.

CLAIM 3 (ORIGINAL): The device according to claim 1 wherein the second lever rotates within the second plane.

CLAIM 4 (ORIGINAL): The device according to claim 1 wherein the positioning unit moves to the plurality of positions corresponding to gear positions of the bicycle in response to movement of the first lever and the second lever.

CLAIM 5 (ORIGINAL): The device according to claim 4 wherein the positioning unit moves in a first positioning unit direction in response to movement of the first lever, and wherein the

positioning unit moves in a second positioning unit direction opposite the first positioning unit direction in response to movement of the second lever.

CLAIM 6 (ORIGINAL): The device according to claim 5 wherein the first lever moves in a first lever direction to move the positioning unit in the first positioning unit direction, wherein the second lever moves in a second lever direction to move the positioning unit in the second positioning unit direction, wherein the first lever direction is the same as the second lever direction.

CLAIM 7 (ORIGINAL): The device according to claim 5 wherein the first lever rotates in a first lever direction to move the positioning unit in the first positioning unit direction, and wherein the second lever rotates in a second lever direction to move the positioning unit in the second positioning unit direction.

CLAIM 8 (ORIGINAL): The device according to claim 7 wherein the first lever direction is the same as the second lever direction.

CLAIM 9 (ORIGINAL): The device according to claim 5 wherein the positioning member maintains the positioning unit in each of the plurality of positions corresponding to gear positions of the bicycle.

CLAIM 10 (ORIGINAL): The device according to claim 9 wherein the positioning member allows the positioning unit to move in the second positioning unit direction in response to movement of the second lever.

CLAIM 11 (ORIGINAL): The device according to claim 10 further comprising a motion limiting member that limits movement of the positioning unit in response to movement of the second lever.

CLAIM 12 (ORIGINAL): The device according to claim 11 wherein the motion limiting member is retained to the second lever.

CLAIM 13 (ORIGINAL): The device according to claim 12 wherein the motion limiting member is one piece with the second lever.

CLAIM 14 (ORIGINAL): The device according to claim 1 wherein the first lever and the second lever are coupled to the mounting member such that the first lever and the second lever are located above the bicycle handlebar when the shift control device is mounted to the bicycle handlebar.

CLAIM 15 (PREVIOUSLY PRESENTED): A shift control device for a bicycle transmission comprising:

- a mounting member adapted to mount the shift control device to a bicycle;

- a first lever operatively coupled to the mounting member;

- a second lever operatively coupled to the mounting member for movement between a rest position and an operating position such that the second lever returns to the rest position after moving to the operating position;

- a positioning unit that rotates to and is maintained in a plurality of positions corresponding to gear positions of the bicycle; and

- a motion limiting member operatively coupled to the second lever to limit motion of the positioning unit during operation of the second lever;

wherein the first lever is operatively coupled to the positioning unit so that the first lever is maintained in a plurality of positions corresponding to gear positions of the bicycle transmission in addition to beginning and end positions of a range of motion of the first lever.

CLAIM 16 (ORIGINAL): The device according to claim 15 wherein the motion limiting member moves together with the second lever.

CLAIM 17 (ORIGINAL): The device according to claim 16 wherein the motion limiting member is one piece with the second lever.

CLAIM 18 (ORIGINAL): The device according to claim 15 wherein the positioning unit rotates in a first positioning unit direction in response to movement of the first lever, and wherein the positioning unit rotates in a second positioning unit direction opposite the first positioning unit direction in response to movement of the second lever.

CLAIM 19 (ORIGINAL): The device according to claim 18 wherein the first lever moves in a first lever direction to rotate the positioning unit in the first positioning unit direction, wherein the second lever moves in a second lever direction to rotate the positioning unit in the second positioning unit direction, and wherein the first lever direction is the same as the second lever direction.

CLAIM 20 (ORIGINAL): The device according to claim 15 wherein the first lever rotates in a first lever direction to move the positioning unit in the first positioning unit direction, and wherein the second lever rotates in a second lever direction to move the positioning unit in the second positioning unit direction.

CLAIM 21 (ORIGINAL): The device according to claim 20 wherein the first lever direction is the same as the second lever direction.

CLAIM 22 (ORIGINAL): The device according to claim 15 further comprising a positioning member that maintains the positioning unit in each of the plurality of positions.

CLAIM 23 (ORIGINAL): The device according to claim 22 wherein the positioning member allows the positioning unit to move in the second positioning unit direction in response to movement of the second lever.

CLAIM 24 (ORIGINAL): The device according to claim 23 wherein the motion limiting member moves together with the second lever.

CLAIM 25 (ORIGINAL): The device according to claim 24 wherein the motion limiting member is one piece with the second lever.

CLAIM 26 (ORIGINAL): The device according to claim 15 wherein the first lever and the second lever are coupled to the mounting member such that the first lever and the second lever are located above the bicycle handlebar when the shift control device is mounted to the handlebar.

CLAIM 27 (ORIGINAL): The device according to claim 15 wherein the first lever moves in a first plane, wherein the second lever moves in a second plane, and wherein the first plane is substantially parallel to the second plane.

CLAIM 28 (PREVIOUSLY PRESENTED): A shift control device for a bicycle transmission comprising:

- a mounting member adapted to mount the shift control device to a bicycle handlebar;
- a first lever operatively coupled to the mounting member;
- a second lever operatively coupled to the mounting member for movement between a rest position and an operating position such that the second lever returns to the rest position after moving to the operating position;

- a positioning unit that rotates to and is maintained in a plurality of positions corresponding to gear positions of the bicycle transmission in response to movement of one of the first lever and the second lever;

- wherein the first lever and the second lever are coupled to the mounting member such that the first lever and the second lever are located above the bicycle handlebar when the shift control device is mounted to the handlebar; and

- wherein the first lever is operatively coupled to the positioning unit so that the first lever is maintained in a plurality of positions corresponding to gear positions of the bicycle transmission in addition to beginning and end positions of a range of motion of the first lever.

CLAIM 29 (ORIGINAL): The device according to claim 28 wherein the first lever moves in a first plane, wherein the second lever moves in a second plane, and wherein the first plane is substantially parallel to the second plane.

CLAIM 30 (ORIGINAL): The device according to claim 28 wherein the positioning unit rotates to a plurality of positions corresponding to gear positions of the bicycle transmission in response to movement of the first lever and the second lever.

CLAIM 31 (ORIGINAL): The device according to claim 30 wherein the positioning unit rotates to the plurality of positions corresponding to gear positions of the bicycle transmission in response to rotation of the first lever and the second lever.

CLAIM 32 (ORIGINAL): The device according to claim 30 wherein the positioning unit moves in a first positioning unit direction in response to movement of the first lever, and wherein the positioning unit moves in a second positioning unit direction opposite the first positioning unit direction in response to movement of the second lever.

CLAIM 33 (ORIGINAL): The device according to claim 32 wherein the first lever moves in a first lever direction to move the positioning unit in the first positioning unit direction, wherein the second lever moves in a second lever direction to move the positioning unit in the second positioning unit direction, and wherein the first lever direction is the same as the second lever direction.

CLAIM 34 (ORIGINAL): The device according to claim 32 wherein the first lever rotates in a first lever direction to move the positioning unit in the first positioning unit direction, and wherein the second lever rotates in a second lever direction to move the positioning unit in the second positioning unit direction.

CLAIM 35 (ORIGINAL): The device according to claim 34 wherein the first lever direction is the same as the second lever direction.

CLAIM 36 (ORIGINAL): The device according to claim 32 further comprising a positioning member that maintains the positioning unit in each of the plurality of positions corresponding to gear positions of the bicycle transmission.

CLAIM 37 (ORIGINAL): The device according to claim 36 wherein the positioning member allows the positioning unit to move in the second positioning unit direction in response to movement of the second lever.

CLAIM 38 (ORIGINAL): The device according to claim 37 further comprising a motion limiting member that limits movement of the positioning unit in response to movement of the second lever.

CLAIM 39 (ORIGINAL): The device according to claim 38 wherein the motion limiting member is retained to the second lever.

CLAIM 40 (ORIGINAL): The device according to claim 39 wherein the motion limiting member is one piece with the second lever.

CLAIM 41 (PREVIOUSLY PRESENTED): A bicycle control apparatus comprising:  
a mounting member adapted to mount the bicycle control apparatus to a bicycle;  
a positioning unit coupled to the mounting member for moving to a plurality of positions;  
and  
a positioning member that maintains the positioning unit in each of the plurality of positions, wherein the positioning member comprises a material that deforms in response to excessive force applied between the positioning member and the positioning unit to release the positioning unit from a maintained position;  
a first lever operatively coupled to the positioning unit so that the positioning unit moves in response to movement of the first lever;  
a second lever operatively coupled to the positioning unit so that the positioning unit moves in response to movement of the second lever;  
wherein the positioning unit moves in a first positioning unit direction in response to movement of the first lever;  
wherein the positioning unit moves in a second positioning unit direction opposite the first positioning unit direction in response to movement of the second lever;  
wherein the first lever moves in a first lever direction to move the positioning unit in the first positioning unit direction;  
wherein the second lever moves in a second lever direction to move the positioning unit in the second positioning unit direction; and  
wherein the first lever direction is the same as the second lever direction.

CLAIM 42 (CANCELED).

CLAIM 43 (PREVIOUSLY PRESENTED): The apparatus according to claim 41 wherein the first lever stops at a plurality of positions corresponding to gear positions of the bicycle transmission.

CLAIMS 44-46 (CANCELED).

CLAIM 47 (PREVIOUSLY PRESENTED): The apparatus according to claim 41 wherein the first lever rotates in the first lever direction to move the positioning unit in the first positioning unit direction, and wherein the second lever rotates in the second lever direction to move the positioning unit in the second positioning unit direction.

CLAIM 48 (CANCELED).

CLAIM 49 (PREVIOUSLY PRESENTED): The apparatus according to claim 41 wherein the positioning member allows the positioning unit to move in the second positioning unit direction in response to movement of the second lever.

CLAIM 50 (ORIGINAL): The apparatus according to claim 49 further comprising a motion limiting member that limits movement of the positioning unit in response to movement of the second lever.

CLAIM 51 (ORIGINAL): The apparatus according to claim 50 wherein the motion limiting member is retained to the second lever.

CLAIM 52 (ORIGINAL): The apparatus according to claim 51 wherein the motion limiting member is one piece with the second lever.

CLAIM 53 (PREVIOUSLY PRESENTED): The apparatus according to claim 41 wherein the first lever and the second lever are coupled to the mounting member such that the first lever and the second lever are located above the bicycle handlebar when the shift control device is mounted to the handlebar.



CLAIM 54 (PREVIOUSLY PRESENTED): The apparatus according to claim 41 wherein the first lever moves in a first plane, wherein the second lever moves in a second plane, and wherein the first plane is substantially parallel to the second plane.

CLAIM 55 (PREVIOUSLY PRESENTED): A shift control device for a bicycle transmission comprising:

- a mounting member adapted to mount the shift control device to a bicycle;
  - a positioning unit coupled to the mounting member for moving to a plurality of positions;
  - a first lever that moves in a first lever direction to move the positioning unit in a first gear position direction;
  - a second lever that moves in a second lever direction to initiate movement of the positioning unit in a second gear position direction opposite the first gear position direction;
  - wherein the first lever direction is the same as the second lever direction;
  - a motion allowing member coupled to the mounting unit to allow movement of the positioning unit in the second gear position direction; and
  - a motion limiting member retained to the second lever and moving in the second lever direction to limit motion of the positioning unit in the second gear position direction during operation of the second lever;
- wherein the motion allowing member moves relative to the second lever and is controlled by the second lever to initiate movement of the positioning unit.

CLAIM 56 (ORIGINAL): The device according to claim 55 wherein the first lever direction is one of a clockwise and a counterclockwise direction.

CLAIM 57 (ORIGINAL): The device according to claim 55 wherein the first lever and the second lever are coupled to the mounting member such that the first lever and the second lever are located above the bicycle handlebar when the shift control device is mounted to the handlebar.

CLAIM 58 (ORIGINAL): The device according to claim 55 wherein the first lever moves in a first plane, wherein the second lever moves in a second plane, and wherein the first plane is substantially parallel to the second plane.

CLAIMS 59-69 (CANCELED).

CLAIM 70 (CURRENTLY AMENDED): A bicycle control apparatus comprising:  
a mounting member adapted to be mounted to a bicycle;  
a positioning unit coupled to the mounting member for moving to a plurality of positions;  
a positioning member that maintains the positioning unit in each of the plurality of positions;  
wherein the positioning member moves along a first path between an engagement position, where the positioning member engages the positioning unit, and a disengagement position where the positioning member is disengaged from the positioning unit;  
wherein the positioning member moves along a second path that is different from the first path; and  
wherein movement of the positioning member along the second path includes movement of the positioning member other than rotation of the positioning member.

CLAIM 71 (CANCELED).

CLAIM 72 (PREVIOUSLY PRESENTED): The apparatus according to claim 70 wherein the positioning member moves along the second path when the positioning unit moves to at least one of the plurality of positions.

CLAIM 73 (PREVIOUSLY PRESENTED): The apparatus according to claim 70 wherein the positioning member includes one of a projection and an opening that engages a corresponding other one of a projection and an opening disposed with the mounting member.

CLAIM 74 (PREVIOUSLY PRESENTED): The apparatus according to claim 73 wherein the positioning member rotates around the projection to move between the engagement position and the disengagement position.

CLAIM 75 (PREVIOUSLY PRESENTED): The apparatus according to claim 74 wherein the positioning member includes the projection, and wherein the opening is disposed with the mounting member.

CLAIM 76 (PREVIOUSLY PRESENTED): The apparatus according to claim 70 wherein the positioning unit rotates to each of the plurality of positions.

CLAIM 77 (PREVIOUSLY PRESENTED): The apparatus according to claim 76 wherein the positioning unit includes a plurality of positioning teeth, and wherein the positioning member engages at least one of the plurality of positioning teeth to maintain the positioning unit in each of the plurality of positions.

CLAIM 78 (PREVIOUSLY PRESENTED): The apparatus according to claim 77 wherein the positioning member comprises a positioning pawl.

CLAIM 79 (CANCELED).

CLAIM 80 (PREVIOUSLY PRESENTED): The apparatus according to claim 78 wherein the positioning unit comprises a takeup element for pulling and releasing a control element.

CLAIM 81 (PREVIOUSLY PRESENTED): The apparatus according to claim 80 wherein the takeup element includes a winding surface.

CLAIM 82 (PREVIOUSLY PRESENTED): The apparatus according to claim 81 wherein the winding surface defines a wire winding groove.

CLAIM 83 (PREVIOUSLY PRESENTED): The apparatus according to claim 80 wherein the plurality of positioning teeth are disposed on an outer peripheral surface of the takeup element.

CLAIM 84 (PREVIOUSLY PRESENTED): The apparatus according to claim 80 wherein the positioning pawl moves along the second path when the positioning unit rotates to at least one of the plurality of positions and the positioning pawl is in the engagement position.

CLAIM 85 (PREVIOUSLY PRESENTED): The apparatus according to claim 84 further comprising a biasing member that biases the positioning pawl toward the engagement position.

CLAIM 86 (PREVIOUSLY PRESENTED): The apparatus according to claim 85 wherein the positioning pawl comprises a mounting axle that engages an opening disposed with the mounting

member, wherein the positioning pawl rotates around the mounting axle to move along the first path between the engagement position and the disengagement position.

CLAIM 87 (PREVIOUSLY PRESENTED): The apparatus according to claim 86 wherein the opening is an elongated opening, and wherein the mounting axle moves within the elongated opening to move along the second path.

CLAIM 88 (PREVIOUSLY PRESENTED): The apparatus according to claim 87 wherein the mounting opening is formed in the mounting member.

CLAIM 89 (PREVIOUSLY PRESENTED): The apparatus according to claim 87 further comprising a release lever that moves the positioning pawl between the engagement position and the disengagement position.

CLAIM 90 (PREVIOUSLY PRESENTED): The apparatus according to claim 41 wherein the positioning member flexes in response to excessive force applied between the positioning member and the positioning unit to release the positioning unit from the maintained position.

CLAIM 91 (PREVIOUSLY PRESENTED): The apparatus according to claim 90 wherein the positioning member comprises a pawl having a pawl tooth disposed on a pawl body.

CLAIM 92 (PREVIOUSLY PRESENTED): The apparatus according to claim 91 wherein a slit is disposed between the pawl tooth and the pawl body so that the pawl tooth flexes relative to the pawl body to release the positioning unit from the maintained position.

CLAIM 93 (PREVIOUSLY PRESENTED): The apparatus according to claim 70 wherein the positioning member moves along the second path when the positioning member is in the engagement position.

CLAIM 94 (PREVIOUSLY PRESENTED): The device according to claim 55 wherein the motion limiting member is formed as one piece with the second lever.